

Appl. No. 10/605,416  
Amtd. Dated March 31, 2005  
Reply to Office action of December 01, 2004

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**5 Listing of Claims:**

**Claim 1 (currently amended):** A liquid crystal display comprising:

- a lower substrate;
- an upper substrate positioned parallel with the lower substrate; and
- a plurality of pixel units, each of the pixel units including an upper transparent electrode, a liquid crystal layer, a lower transparent electrode, and a color filter covered with one of the upper and the lower transparent electrode directly;

10 wherein a surface of each color filter has a plurality of recess structures.

**Claim 2 (original):** The liquid crystal display of claim 1 wherein a distribution density of the recess structures is used to regulate brightness and a color deepness of the liquid crystal display.

**Claim 3 (original):** The liquid crystal display of claim 1 wherein each of the pixel units respectively comprises a reflection layer positioned between the color filter and the lower substrate.

**20 Claim 4 (original):** The liquid crystal display of claim 3 being a reflective liquid crystal display.

**Claim 5 (original):** The liquid crystal display of claim 3 wherein each of the reflection layers includes an opening.

**Claim 6 (original):** The liquid crystal display of claim 5 being a semi-transmissive and semi-reflective liquid crystal display.

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**Claim 7 (original):** The liquid crystal display of claim 1 further comprising a plurality of thin film transistors for respectively controlling each of the pixel units.

**Claim 8 (currently amended):** A liquid crystal display comprising:

- 5        a lower substrate;
- an upper substrate positioned parallel with the lower substrate; and
- a plurality of pixel units, each of the pixel units including an upper transparent electrode, a liquid crystal layer, a lower transparent electrode, and a color filter covered with one of the upper and the lower transparent electrode directly;
- 10      wherein each of the color filters includes both a first region and a second region, and a surface of the first region has a plurality of recess structures.

**Claim 9 (original):** The liquid crystal display of claim 8 wherein an area of the first region of the color filter is used to regulate brightness and a color deepness of the liquid crystal display.

**Claim 10 (original):** The liquid crystal display of claim 8 wherein a distribution density of the recess structures is used to regulate brightness and a color deepness of the liquid crystal display.

20      **Claim 11 (original):** The liquid crystal display of claim 8 wherein each of the pixel units respectively comprises a reflection layer positioned between the color filter and the lower substrate.

25      **Claim 12 (original):** The liquid crystal display of claim 11 being a reflective liquid crystal display.

**Claim 13 (original):** The liquid crystal display of claim 11 wherein each of the reflection layers respectively includes an opening opposite to the second region of each

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color filter.

**Claim 14 (original):** The liquid crystal display of claim 13 being a semi-transmissive and semi-reflective liquid crystal display.

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**Claim 15 (original):** The liquid crystal display of claim 8 further comprising a plurality of thin film transistors for respectively controlling each of the pixel units.

10 **Claim 16 (new):** The liquid crystal display of claim 1 wherein the plurality of recess structures comprises a plurality of valley structures.

**Claim 17 (new):** The liquid crystal display of claim 1 wherein the surface of each color filter has the plurality of recess structures is able to scatter light.

15 **Claim 18(new):** The liquid crystal display of claim 8 wherein the plurality of recess structures comprises a plurality of valley structures.

**Claim 19 (new):** The liquid crystal display of claim 8 wherein the surface of the first region has the plurality of recess structures is able to scatter light.

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**Claim 20 (new):** A liquid crystal display comprising:

a lower substrate;

an upper substrate positioned parallel with the lower substrate; and

a plurality of pixel units, each of the pixel units including an upper transparent

25 electrode, a liquid crystal layer, a lower transparent electrode, and a color filter formed on the upper substrate and above the lower substrate;

wherein a surface of each color filter has a plurality of convex structures.

**Claim 21 (new):** The liquid crystal display of claim 20 wherein the color filter is

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covered with the upper transparent electrode directly.

Claim 22 (new): The liquid crystal display of claim 20 wherein the surface of each color filter has the plurality of convex structures is able to scatter light.

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Claim 23 (new): The liquid crystal display of claim 20 wherein a distribution density of the convex structures is used to regulate brightness and a color deepness of the liquid crystal display.

10 Claim 24 (new): The liquid crystal display of claim 20 wherein each of the pixel units respectively comprises a reflection layer positioned between the color filter and the lower substrate.

15 Claim 25 (new): The liquid crystal display of claim 24 being a reflective liquid crystal display.

Claim 26 (new): The liquid crystal display of claim 24 wherein each of the reflection layers includes an opening.

20 Claim 27 (new): The liquid crystal display of claim 26 being a semi-transmissive and semi-reflective liquid crystal display.

Claim 28 (new): The liquid crystal display of claim 20 further comprising a plurality of thin film transistors for respectively controlling each of the pixel units.

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Claim 29 (new): The liquid crystal display of claim 28 wherein the thin film transistors is formed on the lower substrate and below the upper substrate.